

CLAIMS

1. A method for producing a cordierite ceramic body, comprising:

5 a mixing step of mixing a ceramic starting material and a binder to produce a mixed starting material,

a humidifying step of adding a humidifying liquid to the mixed starting material to produce a humidified starting material,

10 a molding step of kneading and extruding the humidified starting material to mold a ceramic molded article,

a drying step of drying the ceramic molded article,

15 a cutting step of cutting off an unnecessary part of the ceramic molded article after drying and thereby machining the ceramic molded article into a predetermined length, and

20 a calcining step of calcining the ceramic molded article having the predetermined length to produce a ceramic calcined body,

wherein the method further comprises a reclaiming step of crushing the unnecessary part generated in the cutting step and then classifying to remove at least particles smaller than a predetermined size to produce a reclaimed powder composed of particles falling in a predetermined size range, and the reclaimed powder is used at least as a part of the ceramic starting material in the mixing step.

30 2. A method for producing a cordierite ceramic body according to claim 1, wherein in the mixing step, the content of the reclaimed powder in the ceramic starting material is from 1 to 30 parts by weight based on 100 parts by weight of the virgin starting material.

35 3. A method for producing a cordierite ceramic body according to claim 1 or 2, wherein the cordierite ceramic body has a honeycomb structure.

4. A method for producing a cordierite ceramic body, comprising:

a mixing step of mixing a ceramic starting material and a binder to produce a mixed starting material,

a humidifying step of adding a humidifying liquid to the mixed starting material to produce a humidified starting material,

a molding step of kneading and extruding the humidified starting material to mold a ceramic molded article,

a drying step of drying the ceramic molded article,

a cutting step of cutting off an unnecessary part of the ceramic molded article after drying and thereby machining the ceramic molded article into a predetermined length, and

a calcining step of calcining the ceramic molded article having the predetermined length to produce a ceramic calcined body,

wherein the method further comprises a powdering step of firing the unnecessary part generated in the cutting step to cause disappearance of the binder present in the unnecessary part and result in a powder form to produce a reclaimed powder, and the reclaimed powder is used at least as a part of the ceramic starting material in the mixing step.

5. A method for producing a cordierite ceramic body according to claim 4, wherein in the powdering step, the unnecessary part is fired at a temperature of 600 to 1,000 degrees centigrade.

6. A method for producing a cordierite ceramic body according to claim 4 or 5, wherein an input of the binder in the mixing step or an input of the humidifying liquid in the humidifying step is varied according to the content of the reclaimed powder in the ceramic starting material.

7. A method for producing a cordierite ceramic body according to any one of claims 4 to 6 wherein, in the mixing step, the content of the reclaimed powder in the ceramic starting material is from 1 to 30 parts by weight based on 100 parts by weight of the virgin starting material.

8. A method for producing a cordierite ceramic body according to any one of claims 4 to 7, wherein the cordierite ceramic body has a honeycomb structure.

9. A method for producing a cordierite ceramic body, comprising:

a mixing step of mixing a ceramic starting material and a binder to produce a mixed starting material,

a humidifying step of adding a humidifying liquid to the mixed starting material to produce a humidified starting material,

a molding step of kneading and extruding the humidified starting material to mold a ceramic molded article,

a drying step of drying the ceramic molded article,

a cutting step of cutting off an unnecessary part of the ceramic molded article after drying and thereby machining the ceramic molded article into a predetermined length, and

a calcining step of calcining the ceramic molded article having the predetermined length to produce a ceramic calcined body,

wherein the humidifying step and the molding step are performed together using a molding machine designed to knead the mixed starting material and extrude it through a die, and the unnecessary part generated in the cutting step as well as the humidifying liquid is supplied into the molding machine.

10. A method for producing a cordierite ceramic body according to claim 9, wherein the cooling capacity

for cooling the humidified material in the molding machine is controlled according to an input of the unnecessary part supplied into the molding machine.

11. A method for producing a cordierite ceramic body according to claim 9 or 10, wherein the cordierite ceramic body has a honeycomb structure.

12. A reclaimed ceramic starting material produced from a scrap generated in a method for producing a cordierite ceramic body,  
10 wherein the method comprises a mixing step of mixing a ceramic starting material and a binder to produce a mixed starting material, a humidifying step of adding a humidifying liquid to the mixed starting material to produce a humidified starting material, a  
15 molding step of kneading and extruding the humidified starting material to mold a ceramic molded article, a drying step of drying the ceramic molded article, a cutting step of cutting off an unnecessary part of the ceramic molded article after drying and thereby machining  
20 the ceramic molded article into a predetermined length, and a calcining step of calcining the ceramic molded article having the predetermined length to produce a ceramic calcined body;

wherein the scrap is the unnecessary part generated in the cutting step or a defective dried ceramic molded article generated as a defective in the drying step; and

wherein the reclaimed ceramic starting material is a reclaimed powder composed of particles  
30 falling in a predetermined size range obtained by crushing at least either one of the unnecessary part and the defective dried ceramic molded article and removing at least particles smaller than the predetermined size.

13. The reclaimed ceramic starting material according to claim 12, wherein a maximum dimension of a cross section nearly orthogonal to the longitudinal  
35 direction of particles of the reclaimed powder is from 1

to 5 mm.

14. The reclaimed ceramic starting material according to claim 12 or 13, wherein the cordierite ceramic body has a honeycomb structure.

5 15. A reclaimed ceramic starting material produced from a scrap generated in a method for producing a cordierite ceramic body,

wherein the method comprises a mixing step of mixing a ceramic starting material and a binder to  
10 produce a mixed starting material, a humidifying step of adding a humidifying liquid to the mixed starting material to produce a humidified starting material, a molding step of kneading and extruding the humidified starting material to mold a ceramic molded article, a  
15 drying step of drying the ceramic molded article, a cutting step of cutting off an unnecessary part of the ceramic molded article after drying and thereby machining the ceramic molded article into a predetermined length, and a calcining step of calcining the ceramic molded  
20 article having the predetermined length to produce a ceramic calcined body;

wherein the scrap is the unnecessary part generated in the cutting step or a defective dried ceramic molded article generated as a defective in the  
25 drying step; and

wherein the reclaimed ceramic starting material is a reclaimed powder produced by firing at least either one of the unnecessary part and the defective dried ceramic molded article to cause  
30 disappearance of the binder present in the unnecessary part or defective dried ceramic molded article and result in a powder form.

16. The reclaimed ceramic starting material according to claim 15, wherein the reclaimed powder is  
35 obtained by firing the unnecessary part or defective dried ceramic molded article at a temperature of 600 to 1,000 degrees centigrade.

17. The reclaimed ceramic starting material according to claim 15 or 16, wherein the cordierite ceramic body has a honeycomb structure.